

Asbestos in Talc Symposium

The Hotel at the University of Maryland

Speakers & Moderators

November 28, 2018



Bradley Van Gosen

U.S. Geological Survey

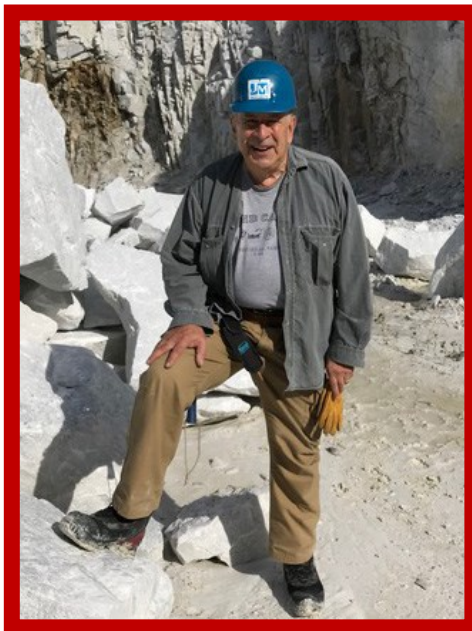
Bradley Van Gosen is a geologist with the US Geological Survey's Mineral Resources Program in Denver, Colorado. In 2006, he began a study of fibrous minerals associated with talc, which led into many studies of the geology of asbestos thereafter.



Gregory Meeker

Mr. Gregory Meeker is a research scientist specializing in the characterization of fibrous and asbestiform minerals. Greg's research has included the application of microscopy and microanalysis to the fields of environmental and medical geology, geochemistry, mineralogy, volcanology, and planetary geology. Greg worked as a mineralogist and geologist at the U.S. Geological Survey for 23 years before his retirement from Federal service. While at the USGS, his research was directed toward a better understanding of the

nature and origin of fibrous minerals including erionite and the amphiboles from Libby, Montana. In 2009, Greg served as a member of the National Academy of Sciences, Institute of Medicine committee to review the NIOSH roadmap for asbestos research. In 2008, he testified before the U.S. House of Representatives, Subcommittee on Environment and Hazardous Materials regarding asbestos mineralogy and nomenclature. Greg was a principle investigator in the USGS study of the dusts generated by the collapse of the World Trade Center and served as a member of the EPA World Trade Center Expert Technical Review Panel. Greg has also served as an expert on asbestos-related minerals for the U.S. Department of Justice and the EPA. Greg is a Clinical Assistant Professor at the University of Colorado School of Public Health and a Past President of the Microanalysis Society.



Martin Rutstein

***Ecological Consulting &
Management Services, Inc.***

Retired Professor of Mineralogy. Teaching and research interests in: mineralogy, metamorphic petrology, optical mineralogy and environmental geology, especially particulates and toxic chemicals.

Industrial hygiene consultant for asbestos inspections and remediation projects since 1972. Certifications:

Asbestos Inspector, Asbestos Management Planner and Asbestos Air Testing Technician. Inspected several hundred commercial, school and construction sites and designed and/or overseen more than one hundred asbestos remediation projects. Field studies of asbestos and asbestos-containing mining districts in Quebec, Ontario, Vermont, New Jersey, New York, Arizona and Mojave Desert.

Laboratory Director for NYS ELAP and AHERA NVLAP asbestos bulk sample analysis facility late 80's through mid-90's.

Presently co-chair US Pharmacopeia expert panel on talc and asbestos in pharmaceuticals. Expert witness in state and federal Courts on asbestos and lead-based paints.

Current research interests: mechanisms of growth of "elongate" minerals and definitions of regulated minerals; reconciling regulatory trends with construction realities; and achieving the goals of maximizing the protection of human health and the environment in a fiscally prudent manner.



Martin Harper

Zefon International, Inc.

Dr. Martin Harper was born in the United Kingdom; he received a degree in Geology from Oxford University; a Post-Graduate Diploma in Environmental Pollution Controls; a Master of Science in Earth Sciences and the Environment; and he obtained his PhD in occupational health research from the London School of Hygiene and Tropical Medicine. Dr. Harper served as Chief of the Exposure Assessment Branch in the Health Effects Laboratory Division of the US National Institute for Occupational Safety and Health (NIOSH), in Morgantown, WV and is now Director of Scientific Research for Zefon International, Inc. He is a Chartered Chemist and Fellow of the Royal Society of Chemistry and he is a Certified Industrial Hygienist and Fellow of the American Industrial Hygiene Association. Dr. Harper has published more than 140 peer-reviewed journal papers, book chapters, encyclopedia articles and standards. He has received three awards from the American Industrial Hygiene Association, four from the American Society for Testing and Materials, two from NIOSH, and has been nominated twice for CDC awards. He served as Chair of the ISO Technical Committee 146, sub-Committee 2 (Air Quality: Workplace Atmospheres) for six years. He served for four years as an Editorial Board member for Journal of Environmental Monitoring, and for six years as Editor of the Analytical Performance Issues column for Journal of Occupational and Environmental Hygiene. He has organized and chaired several international conferences on air sampling and analysis. He has taught or presented in 25 different countries. His interests are in sampling and analysis of aerosols, including wood dusts, metals, metalworking fluids, mineral fibers (asbestos), silica and nanoparticles; active and diffusive gas and vapor sampling; indoor air chemistry; quality assurance of measurements; exposure assessment strategies and models; and risk assessment.



Brooke Mossman

University of Vermont, Larner College of Medicine

Brooke Taylor Mossman, MS, PhD, a University Distinguished Professor of Pathology at the University of Vermont College of Medicine, has over 30 years of research, service and training in the field of environmental and occupational lung diseases. After elucidating the important roles of oxidative stress and related cell signaling pathways in the development of mesotheliomas by amphibole asbestos fibers, she and her laboratory have focused on blocking these pathways in prevention and therapy of human mesotheliomas. Her research has been supported by funding from several institutes of the NIH, the EPA, the American Cancer Society, and the Mesothelioma Applied Research Foundation. She has received a Career Achievement Recognition Award for her scientific accomplishments from the American Thoracic Society and the Wagner Award from the International Mesothelioma Interest Group for historic contributions to mesothelioma research. She has published more than 300 scientific articles and book chapters. She currently is a voluntary member of the scientific advisory boards of the Mesothelioma Applied Research Foundation and the National Virtual Mesothelioma Bank. In addition, she serves on the editorial board of Particle and Fibre Toxicology and reviews manuscripts for leading journals in her field. In 2015 she started the consulting firm, Toxico.Logic, Inc..



Ann Wylie

***University of Maryland, Dept. of
Geology***

Ann Wylie is currently Emerita Professor in the Department of Geology, University of Maryland, College Park. She holds a BA in geology from Wellesley College and a PhD in economic geology with minor concentrations in mineralogy, petrology, structural geology and mining engineering from Columbia University. She joined the faculty of the University of Maryland in 1972

where she has taught courses and directed research in mineralogy, optical mineralogy, physical geology, environmental geology and economic geology. She has held a number of senior leadership positions including Senior Vice President and Provost. She is a fellow of the Geological Society of America and a member of the Mineralogical Association of Canada and ASTM, and has published extensively on problems in mineralogy related to talc, amphiboles, chrysotile, and the mineralogical characteristics of asbestos generally.

Recent papers include: 1) Wylie, A and P Candela (2015) Methodologies for determining the sources, characteristics, distribution, and abundance of asbestiform and non-asbestiform amphibole and serpentine in ambient air and water. *Journal of Toxicology and Environmental Health, Part B: Critical Reviews*. 18: 1-42; 2) Weill, D., Chatfield, E, Cox, T, Gamble, J, Gibbs, G., and Wylie, A. (2016) Letter to the Editor in reference to: Hwang et al. The Relationship Between Various Exposure Metrics for Elongate Mineral Particles (EMP) in the Taconite Mining and Processing Industry, *Journal of Occupational and Environmental Health*, Vol. 11, pp 613-624; 3) Wylie, A.G. (2017) Mineralogy of asbestos and fibrous erionite. In *Current Cancer Research: Asbestos and Mesothelioma*, Joseph Testa Ed. Springer, Heidelberg, 11-41; 4) Wylie, A.G. (2017) Amphiboles: Fibers, fragments and mesothelioma. *Canadian Mineralogist* 54, and 5) Kerrigan, RJ, Candela PA, Piccoli PM, Frank M and Wylie A (in press). Olivine + quartz + water \pm HCl at mid-crustal conditions: controls on the growth of fibrous talc as determined from hydrothermal diamond anvil cell experiments, *Canadian Mineralogist*.



Robyn Ray

EMSL Analytical, Inc.

Robyn has worked for EMSL Analytical, Inc. for 18 years. In that time she has been a PCM, PLM and TEM analyst before becoming a laboratory manager and then national project manager. During her career she has worked on many highly scrutinized projects such as NYC September 11th cleanup, Ambler BoRit Superfund site, Libby, Montana Superfund site, Asbestos in

Products testing and Erionite characterization for the EPA reference material.

Robyn specializes in TEM analysis of naturally occurrences of asbestos and erionite. She is a member of ASTM D22 (Air Quality) and ISO TAG TC 146 where she collaborates with other industry experts in method development.



Frank Ehrenfeld III

International Asbestos Testing Laboratories

Frank Ehrenfeld, Laboratory Director for international Asbestos Testing Laboratories since 1992, oversees over 50 scientists and support team at the commercial environmental and materials testing laboratory in New Jersey. He is active as a member of several industry organizations and is recognized as an expert on microanalytical techniques. Mr. Ehrenfeld is owner and Vice-President of iATL, and Laboratory Director of their wholly-owned subsidiaries: nanoTEM and CPLabs. Frank is the Chair of the ASTM D22.07 committee on Sampling and Analysis of Asbestos that oversees development of asbestos analytical standards. Frank participates in professional conference seminars as a speaker and panel member (ASTM D22 Conferences, EAS, AIHA, EIA, ASSE, etc.). Frank is a peer reviewer for publications and organizations including co-editor/reviewer for ASTM's Asbestos Control Manual 3rd Edition. Mr. Ehrenfeld has served on AIHA's LAP LLC's Technical Advisory Panel (TAP) and Analytical Accreditation Board (AAB). He was that group's recipient of the Harriet Hurley Award in 2012.

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Available

Arthur Langer

***City University of New York,
Graduate School***

Professor in the Ph.D. Program in Earth and Environmental Sciences in the Graduate School and University Center of the City University of New York. My early academic career 1965 – 1985 was spent as a faculty member in the Mt. Sinai School of Medicine in New York. I was an associate director of the Environmental Sciences Laboratory when the unit was headed by Dr.

Irving Selikoff. Our interests included minerals as agents of neoplastic disease and those properties that imparted them with biological potential (including exposure).

My studies then, and since that time, have included physical-chemical properties of the asbestos minerals, the polymorphs of silica and titania, talc as an industrial product and as a consumer talcum, and fibrous clays. My investigations have included product analysis, tissue burden studies, and asbestos air pollution studies. I have several hundred published scientific communications. My work with talc dates to the early and mid 1970s.

My recent interests have turned to surface properties of inorganic dusts and to risk analysis. Two recent papers in press illustrate:

Langer AM, Nolan RP (2018) Chrysotile and Chrysophosphate. Chemical Modification of the Chrysotile Surface and Its Effect on Biological Behavior. In press. Proceedings of the Monticello Conference, TAAP.

Langer AM, Nolan RP (2018) The Role of Fiber Type and Cumulative Exposure in Controlling Mesothelioma Risk. Jour Reg Toxicology and Pharmacology, in press.