



ASTM INTERNATIONAL  
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**2019 MICHAEL E. BEARD CONFERENCE: SAMPLING, ANALYSIS,  
MANAGEMENT OF ASBESTOS, AND OTHER MICROSCOPIC PARTICLES**

Sponsored by ASTM Committee D22 on Air Quality

April 4-5, 2019  
Sheraton Denver Downtown Hotel  
Denver, CO, USA

**Conference Co-Chairs:** Owen Crankshaw  
Crankshaw Scientific Consulting  
Research Triangle Park, NC

Jim Millette  
Millette Technical Consulting  
Lilburn, GA

Michael Breu  
Fiberquant, Inc.  
Phoenix, AZ

**ABOUT THE CONFERENCE**

This meeting is a two-day set of presentations on asbestos topics of interest to those who work in laboratories, those who use laboratory analytical data, and those who need to understand how to interpret asbestos analytical results. The meeting will follow the policies established for the Johnson Conferences to encourage the presentation of the most recent work in the field and to allow open and frank discussion of new ideas and possible interpretation of the data. Thus no proceedings from the conference will be published, and recording of presentations will not be permitted.

This ASTM-International Conference is dedicated to the memory of Michael E. Beard (1940 - 2008). Mr. Beard served for many years as the Chair of ASTM Subcommittee D22.07 now known as: Sampling, Analysis, Management of Asbestos, and Other Microscopic Particles. This subcommittee remains responsible for developing methods and guides for monitoring asbestos in various media. One of Mike's most memorable contributions was in the long-term stewarding of the ASTM Johnson Asbestos Conferences.

**THURSDAY, APRIL 4, 2019**

8:00 AM

**Opening Remarks**

Owen Crankshaw, Symposium Chairman

**SESSION 1: ASBESTOS DEFINITIONS AND TERMINOLOGY: TOWARD AN  
ACCURATE, RELEVANT, AND COHESIVE UNDERSTANDING**

Session Chairs: Ed Cahill and Alan Segrave

8:10 AM

**What's So Special About Detection Limits for Asbestos?**

Mike Brisson, Savannah River National Laboratory

8:35 AM

**Talc: Did Anybody Notice the Elephant in the Room?**

Sean Fitzgerald, Scientific Analytical Institute

9:00 AM

**Coping with Uncertainty When Measuring Concentrations of Elongate Mineral Particles**

Jim Millette, Millette Technical Consulting

9:25 AM

**The Determination of the Uncertainty of the PCM Fiber Counts**

Thomas Pang, Asbestos QA Program, Inc.

9:50 AM      BREAK

10:10 AM

**Asbestos in Human Tissue and the Environment- Does Size Matter? Part I**

Lee Poye, J3 Resources

10:35 AM

**Evaluation of Structure Particle Size Distributions and Structure Types Generated Using  
the Fluidized Bed Asbestos Segregator and Air Samples Collected During Soil Disturbance  
Activities**

Lynn Woodbury, CDM Smith

11:00 AM

**Can Carcinogenic Potency of Amphiboles be Predicted from Metrological Characteristics**

Alan M. Segrave, Maxxam Analytics; Ann Wylie, University of Maryland; Mark J. Utell,  
University of Rochester Medical Center; and Andrey Korchevskiy, Chemistry & Industrial  
Hygiene, Inc.; Andy Duane, Chemistry & Industrial Hygiene, Inc.

**SESSION 2: NATURAL OCCURRENCES OF ASBESTOS, ERIONITE, TACONITE,  
AND OTHER ELONGATE MINERAL PARTICLES OF HEALTH  
CONCERN: SAMPLING AND ANALYTICAL CHALLENGES**

Session Chairs: Julie Pier and Mark Bailey

11:25 AM

**Summary and Overview of the 2018 International Association for Engineering Geology  
and the Environment (IAEG) NOA Symposium**

Mark Bailey, Asbestos TEM Laboratories, Inc.

11:50 AM      LUNCH (On Your Own)

1:00 PM

**The Evolution of Naturally Occurring Asbestos (NOA) and Erionite Field Sampling  
Protocol and Laboratory Analytical Methodology for NDOT Projects - 2013 to Present**

Kathleen Brandmueller, Nevada Department of Transportation

1:25 PM

**Comparison between PCM and TEM Analysis of Filters Loaded with LA-spiked Soil  
Standards Using the FBAS Preparation Method**

David Berry, USEPA Region 8

1:50 PM

**The Effects of Asbestos Identification & Quantification in Soil Due to Matrix Modification**

Ben Ellis, EMSL Analytical

2:15 PM

**Refinement of Sampling and Analysis Techniques for Asbestos in Soil**

Tim Frederick, USEPA Region 4

2:40 PM      BREAK

3:00 PM

**Further Evaluation of Airborne Tremolite Fiber Population During Sampling at an  
Abandoned Tremolite Mine**

Mark Floyd, Forensic Analytical Laboratories

3:25 PM

**It's a NOA World: Magnesiochlorophyllite: Determining Mineral Identification with  
Analytical TEM**

Robyn Ray, EMSL Analytical

3:50 PM

**Asbestos Methods, Zeolite Problems-Erionite in Rock and Soil**

Robyn Ray, EMSL Analytical

4:15 PM

**Asbestos in Water: Laboratory Evaluations for Two Case Studies**

Federica Paglietti, INAIL, Italian Workers Comp Authority

**SESSION 3: THE NEW PARADIGM OF ASBESTOS ANALYSIS: ASBESTOS  
COMMERCIAL ANALYTICAL ISSUES AND ASBESTOS RESEARCH ANALYTICAL  
ISSUES**

Session Chairs: Jeanne Spencer and Andreas Saldivar

4:40 PM

**Heavy Liquid Separation Preparation for Vermiculite Containing Materials - NY State  
Method 198.8, Takeaways After 2 Years**

Ed Cahill, EMSL Analytical

5:05 PM

**Closing Remarks**

Owen Crankshaw, Conference Chairman

5:10 PM CONFERENCE ADJOURNS FOR THE DAY

5:30 PM RECEPTION (LOCATION TBD)

**FRIDAY, APRIL 5, 2019**

8:00 AM

**Opening Remarks**

Owen Crankshaw, Conference Chairman

8:10 AM

**Morphological Variation in Historical Samples Collected from a Single Source of Tremolite  
Asbestos**

Eric Chatfield, Chatfield Technical Consulting

8:35 AM

**TEM Quantification of Amphibole in Chrysotile Containing Materials: A Summary of  
Data 20 Years in the Making**

Steve Compton, MVA Scientific Analytical Institute

9:00 AM

**Emerging Techniques for Asbestos Determination in Sheet Silicates**

Sean Fitzgerald, Scientific Analytical Institute

9:25 AM

**Characterization of a Fibrous Glaucophanes from the Franciscan Complex (CA, USA)**

Martin Harper, Zefon International, Inc.

9:50 AM      BREAK

10:10 AM

**Identification and Characterization of Asbestos-containing Materials Using HyperSpectral Imaging and X-ray MicroFluorescence Techniques**

Sergio Malinconico, INAIL – Italian Workers Comp Authority

10:35 AM

**Asbestos in Human Tissue and the Environment- Does Size Matter? Part II**

Lee Poye, J3 Resources

11:00 AM

**Revisiting the Lone Pine, CA Amphibole Asbestos (CDS/NIOSH) Reference: Should the Material be Termed as a Reference Material Following Thorough Bulk and Selective Characterizations?**

Gary Tomaino, Minerals Technologies, Inc.

**SESSION 4: ADVANCING THE QUALITY AND EFFICIENCY OF LABORATORY ASBESTOS/MINERAL ANALYSIS: TRAINING, EQUIPMENT, INFORMATION MANAGEMENT, AND TECHNIQUES**

Session Chairs: Don Halterman and Steve Compton

11:25 AM

**Teaching Asbestos Fiber Counting by PCM**

Tony Havics, pH2, LLC

11:50 AM      LUNCH (On Your Own)

1:00 PM

**Negative Exposures Assessments (NEAs): Tasks, Data, and Statistical Analyses**

Tony Havics, pH2, LLC

1:25 PM

**An Interlaboratory Round Robin Study to Validate the ASTM D6480 Settled Dust Analysis Method**

Frank Ehrenfeld, International Asbestos Testing Lab

1:50 PM

**An Update on Asbestos in Settled Dust**

Jim Millette, Millette Technical Consulting

2:15 PM

**ASTM Dust Methods: The Effects of the Ultrasonic Preparation Technique on Asbestos Concentration, How to Interpret the Results. Study 2**

Andreas Saldivar, AMA Analytical Services, Inc.

2:40 PM      BREAK

3:00 PM

**Analysis of Data Generated from a Method Comparison Study**

Nardina Turner, USEPA Region 4

3:25 PM

**PLM Asbestos Analysis and Regulations; Layers, Composites and Point Counting**

Tom Laubenthal, The Environmental Institute

3:50 PM

**Updated PLM method References for Reporting and Controlled Documents for NVLAP-accredited Laboratories**

Tom Laubenthal, The Environmental Institute

4:15 PM

**EPA Asbestos Enforcement Investigations**

Peggy Forney, USEPA (Retired)

4:40 PM

**Closing Remarks**

Owen Crankshaw, Conference Chairman

5:00 PM      CONFERENCE ADJOURNS