Second ASTM Symposium on Silica and Associated Respirable Mineral Particles

Sponsored by ASTM Committee D22 on Air Quality

October 25-26, 2012
Hyatt Regency Atlanta
Atlanta, GA

Symposium Co-Chairs: Martin Harper
National Institute for Occupational Safety and Health
Morgantown, WV, USA

Taekhee Lee
National Institute for Occupational Safety and Health
Morgantown, WV, USA

THURSDAY, OCTOBER 25, 2012

8:00 AM
Opening Remarks
Martin Harper and Taekhee Lee, Symposium Co-Chairs

8:05 AM
Silica Sampling and Analysis: Legal Issues Evolving from Regulatory Standards and the Role of ASTM Standards
A. L. Abrams, Law Office of Adele L. Abrams PC, Beltsville, MD, USA

8:30 AM
Laboratory Determinations of the Penetration Curve of Respirable Cyclones and Workplace Comparisons between Different Types of Respirable Cyclones
G. Lidén, Stockholm University, Stockholm, Sweden

8:55 AM
Review of Respirable Aerosol Sampling: Selective Sampling Criteria and Performance of Samplers
P. Görner and R. Wrobel, Institut National de Recherche et de Securite (INRS), Vandoeuvre, France

9:20 AM
Mass Differences between Samplers for Respirable Dust and the Analysis of Quartz: - An International Study
P. Stacey, Health and Safety Laboratory, Buxton, UK

9:45 AM
Break

10:05 AM
High Flow Rate Respirable Aerosol Samplers for Quartz Measurement
T. Lee, and M. Harper, NIOSH, Morgantown, WV, USA
10:35 AM
The Little RASCAL – A New High-Flow Personal Respirable Air Sampling Cyclone for Task-Based Exposure Assessment
A. Echt and R. Key-Schwartz, NIOSH, Cincinnati, OH, USA; A. Thorpe, Health and Safety Laboratory, Buxton, UK; and R. Gussman, BGI, Waltham, MA, USA

11:00 AM
Determinants of Respirable Crystalline Silica (RCS) Exposures among Stonemasons Involved in Stone Restoration Work
C. Healy and M. A. Coggins, National University of Ireland at Galway, Galway, Ireland; M. Van Tongeren and L. MacCalman, Institute of Occupational Medicine, UK; and T. Lee and M. Harper, NIOSH, Morgantown, WV, USA

11:25 AM
Measurement of Respirable Silica Exposures in the Masonry Industry Using Higgens-Dewell Type Dust Cyclones
P. Susi, CPWR, Silver Spring, MD, USA; J. Meeker, University of Michigan, Ann Arbor, MI, USA; and M. Cooper, Oakland, CA, USA

12:00 N Lunch (On your own)

1:00 PM
Silica Monitoring in US Underground Mining: Current Status and Research Needs
E. Cauda, J. Noll, and S. Mischler, NIOSH, Pittsburgh, PA, USA; A. Miller, N. Murphy, and P. Drake, NIOSH, Spokane, WA, USA

1:25 PM
Measurement Precision in the Sampling of Dust and Silica in Real Conditions

2:00 PM
Quartz in Respirable Airborne Dust in Workplaces in Selected Coal and Metal Mines in India
K. A. Bandopadhyay and K. Shobha, Central Institute of Mining and Fuel Research, Dhanbad, Jharkhand, India

2:25 PM
A New Tool to Compare Respirable Dust Sampling Techniques in the Workplace Atmosphere: The Workplace Atmosphere Multisampler, WAM
S. Verpaele and J. Jouret, Adhesia VZW, Zwijnaarde, Belgium; and C. Eypert-Blaison, INRS, Vandoeuvre-lès-Nancy, France

2:50 PM Break

3:10 PM
A Comparison of the Performance of Samplers for Respirable Dust in Workplaces and Laboratory Analysis for Respirable Quartz
S. Verpaele and J. Jouret, Adhesia VZW, Zwijnaarde, Belgium
3:25 PM  
**Automated Scanning Electron Microscopy: A Comparison of SDD and SiLi EDS Detection**  
R. Brown, MVA Scientific Consultants, Duluth, GA, USA

3:50 PM  
**What We Have Learned About Opal: Identification/Misidentification, Quantification, and Regulation**  
G. Tomaino, Specialty Minerals Inc. Easton, PA, USA; and W. Moll, W. Moll and Associates, Village of Lakewood, IL, USA

4:15 PM  
**Relevancy of NIST 1879a (Cristobalite) and Unavailability of A Tridymite Reference with Respect to the Identification of and Quantification of These Regulated Crystalline Silica Phases Within Refractory-Ceramic Materials and Flux-Calcined or In-Situ Calcined Diatomaceous Earth (DE) Materials**  
G. Tomaino, Specialty Minerals Inc., Easton, PA, USA

4:40 PM  
**Closing Remarks**  
Martin Harper and Taekhee Lee, Symposium Co-Chairs

4:45 PM  
Symposium Adjourns for the Day

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**FRIDAY, OCTOBER 26, 2012**

8:00 AM  
**Opening Remarks**  
Martin Harper and Taekhee Lee, Symposium Co-Chairs

8:05 AM  
**Development of a Quantification Method for Quartz in Various Bulk Materials by X-Ray Diffraction and the Rietveld Method**  
J. Martin and H. V. Tra, University of Quebec, Montreal, Quebec, Canada; and M. Beauparlant, and J. Lesage, Institut de recherche Robert-Sauvé en santé et en sécurité du travail (IRSST), Montreal, Quebec, Canada

8:30 AM  
**X-Ray Absorption Effect in Aerosol Samples Collected on Filter Media**  
M. Mecchia and E. Incocciati, INAIL, Italian Workers’ Compensation Authority, Rome, Italy; C. Petorius, CSIR, Johhanesburg, South Africa; P. Stacey, Health and Safety Laboratory, Harpur Hill, Buxton, United Kingdom; and M. Mattenklott, Institute for Occupational Safety and Health of the German Social Accident Insurance, Sankt Augustin, Germany

8:55 AM  
**The Effect of South-African Size-Selective Samplers on XRD Response**  
C. Pretorius, Council for Scientific and Industrial Research, Pretoria, South Africa
9:20 AM
Determination of Crystalline Silica in Dust at Low Concentrations by Low-Temperature Infrared Spectrometry
W. Chisholm, T. Lee, and M. Chirila, NIOSH, Morgantown, WV, USA

9:45 AM Break

10:05 AM
Kaolinite Interference Correction for Quartz Measurements in Coal Mine Dust with Infrared Spectrometer
T. Lee and M. Harper, NIOSH, Morgantown, WV, USA

10:30 AM
Improvement of FTIR-Analysis of Quartz and Current Situation of Occupational Silica Exposure in Germany
M. Mattenklott, S. Gabriel and R. Van Gelder, Institute for Occupational Safety and Health – IFA, Sankt Augustin, NRW Germany

10:55 AM
A Lung Tissue Digestion Technique to Preserve the Physical Properties of Silica Dust Retained in the Lungs of Deceased South African Gold Miners
S. J. Milne and J. Murray, National Institute for Occupational Health (NOH), University of the Witwatersrand, Johannesburg, South Africa; C. J. Pretorius, Council for Scientific and Industrial Research, Pretoria, South Africa; J.I. Phillips, NIOH, NHLS, Wits and University of Johannesburg, Johannesburg, South Africa

11:20 AM
Regulatory Assessment of Respirable Crystalline Silica in Europe: REACH, GHS, CLP, and Carcinogen Directive
B. Friede, Elkem Silicon Materials, Kristiansand, Norway

11:45 AM
Closing Remarks
Martin Harper and Taekhee Lee, Symposium Co-Chairs

12:00 N SYMPOSIUM ADJOURNS

POSTERS PRESENTATIONS

Respirable Crystalline Silica in Quartz Agglomerates Compared to Bulk Contents
P. F. Rodriguez, V. Díaz Huerta, J. Madera Garcí a, E.M. Fernández Vilas, and J. Freijo Pasarín, Instituto Nacional de Silicosis, Oviedo, Asturias, Spain

Sampling Efficiency Shift Due to Pump Pulsation in Respirable Particle Collection
E. G. Lee, L. Lee, M. M. Flemmer, T. Lee, S. Kim, and M. Harper, NIOSH, Morgantown, WV, USA