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The conference Chairman was Professor Man-Ting Cheng of the National Chung Hsing University.

The Proceedings, in the form of the following short abstracts, were communicated by Professor Chiu-sen Wang of the National Taiwan University and President of CAAR.

INHALABILITY AND PERSONAL SAMPLER PERFORMANCE FOR LARGE PARTICLES

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Abstract—Inhalation of large particles, those with aerodynamic diameters from 10 μm to approximately 200 μm, represents an important potential exposure route that has not been well characterized. Although ISO and ACGIH have recommended criteria for sampling of particles up to 100 μm, few data are available for inhalability and personal sampler performance for particles larger than 30 μm and none for particles larger than 100 μm.

Experimental measurements of inhalability were conducted for eight particle sizes, $10 < d_a < 145$ μm, under simulated occupational exposure conditions using a life-size, full-torso mannequin in a low velocity wind tunnel (1.6 × 1.6 m cross-section) at wind velocities from 0.4 to 1.8 m s^{-1}. The mannequin was positioned at fixed angles of 0, 45, 90, 135 and 180° to the wind direction and rotated continuously about 360°. Mouth and nose breathing with a breathing cycle corresponding to a work rate of 34 W was used.

Inhalability results at 0° orientation show good agreement with published data for inhalation-only breathing (no exhalation through the mouth). Orientation averaged inhalability agrees with published data for particles less than 40 μm but is significantly lower in the 40–145 μm aerodynamic size range. Nose inhalability is significantly lower than mouth inhalability for $d_a > 60$ μm.

The tunnel was also used to evaluate the sampling performance of 37 mm disposable filter cassettes and the Institute for Occupational Medicine (IOM) IPM personal sampler, mounted in the breathing zone of the mannequin. Samplers were operated at a steady flow rate of 2 l min^{-1}. Orientation averaged tests were carried out at tunnel wind velocities of 1.0 and 1.8 m s^{-1} with the mannequin "breathing" at a minute volume of 20.8 l min^{-1} (equivalent to a work rate of 34 W).

The samplers show good agreement for particle sizes less than 20 μm; however, the IOM sampler showed significantly greater aspiration efficiency than the 37 mm filter cassettes for $d_a > 40$ μm.

DYNAMIC LIGHT SCATTERING AND LASER IRRADIATION OF AEROSOL PARTICLES

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Abstract—A light scattering technique is generally classified according to its physical phenomenon and to the detection technique of scattered light. The conventional static light scattering deals with