

סמינר - SEMINAR

הנדך מוזמנת להרצאה סמינריונית של הפקולטה להנדסת מכונות, שתקיים ביום ב' 4.06.2018 (כ"א בסיון, תשע"ח), בבניין דן קאהן, אודיטוריום 1, 14:30.

מרצה:

Sergey A. Grinshpun

PhD, Professor and Director
Center for Health-Related Aerosol Studies
College of Medicine, University of Cincinnati
Cincinnati, Ohio, USA

על הנושא:

Aerosol Exposure, Bioaerosol Inactivation and Respiratory Protection

The seminar will be given in English

להלן תקציר ההרצאה:

The lecture will describe focal research programs of the Center for Health-Related Aerosol Studies of the University of Cincinnati, involving aerosol exposure assessment in different occupational and residential environments, exposure-health relationship in allergy and asthma studies, indoor air quality control, inactivation of viable aerosolized microorganisms (including the bio-agent defeat program), respiratory protection, and other areas.

One topic – respiratory protection against aerosol hazards – will be selected for a more detailed presentation. This topic is increasingly important as hundreds of millions of people use respiratory protection devices on a daily basis. Various types of respirators and their operating principles will be described. The particle penetration through a respirator filter will be discussed for “mechanical” and “electret” filter materials. Theoretical modeling and experimental data on the most penetrating particle size and the relative contributions of the two pathways – the filter and the face seal leakage – will be presented. Results on the performance testing of facepiece filtering respirators with biological and non-biological aerosol particles performed on manikins and on human subjects will be shared. The lecture will describe the latest studies conducted in different occupational environments, including agricultural farms (with the focus on dust and airborne microorganisms) and hospital operating rooms (with the focus on the toxic surgical smoke). New types of respirators have been developed based on these studies. Finally, a novel a real-time Respirator Seal Integrity Monitor (developed and evaluated in the University of Cincinnati in 2017-2018), which utilizes a small aerosol sensor, will be introduced.

מארח: פרופ' מיכאל שפירא

בברכה,

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מרכז הסמינרים