



DEPARTMENT OF MECHANICAL ENGINEERING

SEMINAR

*to be held on Thursday, June 7, 2018, 11:00
in the Seminar Room (#117) of the Mechanical Engineering Building (#55)
at the Campus of the Ben-Gurion University of the Negev*

Exposure to Hazardous Aerosols, Inactivation of Aerosolized Bio-agents and Respiratory Protection

Sergey A. Grinshpun, PhD

Professor and Director

Center for Health-Related Aerosol Studies

College of Medicine, University of Cincinnati

Cincinnati, Ohio, USA



Abstract:

Dr. Grinshpun's guest lecture will describe focal research programs of the Center for Health-Related Aerosol Studies, University of Cincinnati (USA). The Center is internationally recognized for its broad scope of research involving aerosols of different origin. These include 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, respiratory protection, and other areas. The following three selected projects will be presented in greater detail:

- exposure to surgical smoke in operating rooms,
- bioaerosol inactivation (including bio-agent defeat program), and
- respiratory protection against aerosol hazards.

Additionally, the audience will be made familiar with interdisciplinary training programs offered in the University of Cincinnati, including the University-wide NIOSH-funded Educational and Research Center and a relatively new Public Health Program open for international students from various educational backgrounds.

Presenter's Bio-sketch:

Trained as a physicist, Sergey Grinshpun received his Ph.D. degree in Thermophysics (Aerosol Science) in 1987 from Odessa University, Ukraine. With his research group in Odessa, he studied aerosol sampling and characterization. As a visiting faculty member, he joined the University of Cincinnati, USA (1991), where he became Full Professor of Environmental Health (2003). He is Founding Director of the Center for Health-Related Aerosol Studies (established in 2000) which over the years have supported 12-20 researchers at a given time.

Dr. Grinshpun has been an invited speaker, panelist, organizing committee member and session chair at national and international conferences, as well as a guest lecturer at various universities and research institutions of more than 20 countries in Europe, America, Asia, and Australia. He has been involved in the experimental and theoretical evaluation of aerosol sampling techniques and developed several new methods for stationary and personal aerosol sampling. A big part of his research program relates to aerosols of biological origin, including exposure and health effects associated with viruses, bacteria, fungi, pollen and their products. His team is extensively involved in a major bio-defense research program on the development of novel methods for effective defeat of bio-agent facilities. He is also engaged in the laboratory and field studies of aerosol transport in indoor and outdoor environments, aerosol exposure assessment, and the development and evaluation of respiratory protection and indoor air purification techniques. Dr. Grinshpun's research programs on environmental and industrial aerosols, biodefense and biosecurity have been supported by government agencies and international organizations (e.g., CDC/NIOSH, NIEHS, NIST, DHS, DHUD, DoD, EPA, and NATO) as well as major industries.

Through his career, Dr. Grinshpun has mentored 50+ graduate students and about 30 postdoctoral fellows/visiting scholars from 15 countries worldwide. He has authored or co-authored about 640 scientific publications, including 225 original articles in peer-reviewed journals, 100+ book chapters, special articles and full proceeding papers, as well as 310 conference abstracts. He has served on panels convened by the National Academies (USA), the Council of Canadian Academies, the Chinese Academy of Sciences and several US federal agencies. He has also served as adviser/consultant to professional associations, major companies and research institutions nationally and internationally. He is/was a member of Editorial Boards of eight scientific journals.

Dr. Grinshpun's research results and expert opinions have been featured in the media including ABC News, Forbes, Los Angeles Times, National Public Radio, Science Daily, The Wall Street Journal, United Press International, US News and

me@bgu.ac.il

טלפון: 08 6477043 • פקס: 08 6472813