

IOWA STATE UNIVERSITY

Agricultural and Biosystems Engineering

Nir Keren

Associate Professor

102 I. Ed. II
515-294-2580
nir@iastate.edu
www.abe.iastate.edu

Education

Ph.D. Interdisciplinary Engineering (Chemical Engineering Dept.) Mary Kay O'Connor Process Safety Center
Texas A&M University, 2003

M.S. Management and Safety Engineering
Ben Gurion University, Israel, 1998

B.S. Mechanical Engineering
Ben Gurion University, Israel, 1990

Honors and Awards

ISU Miller Faculty Fellow (2007-08 & 2008-09)

Magna Cum Laude, Ben Gurion University,
Israel

Recent Publications

Keren, N., Freeman, S. A., Harmon, J. D., & Bern, C. J. 2011. Testing the effectiveness of an online safety module for engineering students. *International Journal of Engineering Education*, 27(2): 284-291.

Keren, N. 2010. Incident database-based framework for establishing industrial safety performance assessments. *Journal of Industrial Technology*, 26(2):2-12.

Samuel, C., **Keren, N.**, Shelley, M. C., & Freeman, S. A. 2009. Frequency analysis of hazardous material transportation incidents as a function of distance from origin to incident location. *Journal of Loss Prevention in the Process Industries*. 22(6): 783-790.

Keren, N., Mills, T. R., Freeman, S. A., & Shelley, M. C. 2009. Can level of safety climate predict level of orientation toward safety in a decision making task? *Safety Science*, 47(10): 1312-1323.

Qiao, Y., **Keren, N.**, & Mannan, M. S. 2009. Utilization of accident databases and fuzzy sets to estimate frequency of HazMat transport accidents. *Journal of Hazardous Materials*, 167 (1-3): 374-382.

Mannan, M. S., O'Connor, T. M., & **Keren, N.** 2009. Patterns and trends in injuries due to chemicals based on OSHA occupational injury and illness statistics. *Journal of Hazardous Materials*, 163(1): 349-356.

Henning, J. B., Stufft, C. J., Payne, S. C., Bergman, M. E., Mannan, M. S., & **Keren, N.** 2009. The influence of individual differences on organizational safety attitudes. *Safety Science*, 47(3): 337-345.

Teaching

Dr. Keren teaches TSM 370 Occupational Safety; TSM 376 Fire Protection and Prevention; TSM 470 Fundamentals of Industrial Hygiene; TSM 471 Safety Laboratory; and TSM 477/577 Risk Analysis and Management.

Current Research Projects

Dr. Keren is an Associate Professor of Occupational Safety in the department of Agricultural and Biosystems Engineering. His research interests fall into two broad categories: Behavioral Safety and Harnessing Incident Databases to enhance Loss Prevention.

In Behavioral Safety Dr. Keren's interest is in Safety Decision Making. As a graduate faculty in the Human Computer Interaction program he develops Virtual Reality Applications to research decision making. Among his current studies are modeling the effect of consequence severity on process and choice, the effect of stress on decision making processes among emergency responders, and the effect of safety climate on safety decision making.

In harnessing incident databases Dr. Keren is developing novel applications to support loss prevention efforts. In his research he utilizes publicly available and privately owned incident datasets. Recent works in this area include risk assessment of hazardous material transport, and development of calibration values for equipment failure rates in chemical processes.

